

USPTO Customer No. 25280

Case 9292

ARGUMENT FOR PATENTABILITYRejection under 35 USC 103

Claims 2 – 8 are rejected under 35 USC 103(a) as being unpatentable over Li et al. (US Patent 6,686,301) for the reasons set forth in the previous Office Action (reiterated below). Applicants note that the Final Office Action lists Claim 1 as also being rejected, although Claim 1 was cancelled in Applicant's response mailed February 22, 2005.

The Examiner presents the following argument in his rejection of the Claims:

"The cited reference teaches the basic claimed invention including a composite article comprising a silicon rubber matrix, reinforced with polyaramid textile bonded thereto by organosilane. It is submitted that it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize acryloxy organosilane bonding composition in the absence of unexpected results."

The Examiner has cited a passage from the Li reference, which reads as follows:

"Pre-activated textiles, such as polyester fibers coated with an epoxy adhesion enhancer, are typically used in combination with an RFL treatment to further improve the textile adhesion to rubbers." (Col. 1, lines 57-60)

This passage, taken from the "Discussions of the Prior Art" section, suggests the combination of an epoxy adhesion enhancer with a resorcinol-formaldehyde latex (RFL) to improve adhesion. The combination does not contemplate the use of an epoxy or a plasma to activate the polyaramid, and further does not suggest the use of such activating compounds in the absence of a latex treatment. The remainder of the Li reference is directed to describing and claiming a

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combination of silane compounds (e.g., amine-functional silanes and organo-functional silanes) for promotion of adhesion between a textile and rubber.

Nothing in the reference suggests that the Li bonding composition, containing two components, could be modified to provide only one component and that this singular component could be used on a polyaramid that has been activated by an epoxy compound and/or a plasma. Further, of the plurality of compounds mentioned in the Li reference, there is nothing that would indicate the compounds used by the Applicant (i.e., acryloxy organosilanes) are capable of use in this manner, and particularly alone in this manner.

In his response, the Examiner equates "aminosilanes" (Col. 2, line 3) with the presently claimed acryloxy organosilanes. However, the compounds are not equivalent. If aminosilanes and organosilanes were equivalent and interchangeable, as suggested by the Examiner, then Applicant submits that the Li reference would not have explicitly separated those compounds into two categories (see Col. 2, lines 24-62). Additionally, in the list of groups associated with the organo-functional silane, acryloxy groups are not mentioned.

Because the reference does not teach all of the limitations of Applicant's claims, Applicant submits that the rejection of Claims 2-8 is improper and respectfully requests that it be withdrawn.

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Claims 9 – 15 are rejected under 35 USC 103(a) as being unpatentable over Li et al. (US Patent 6,686,301) in view of Morin et al. (US Patent 6,497,954) or Morin et al. (US Patent 6,096,156).

The Examiner's argument is essentially as follows:

"Applicant's amendment [of February 2, 2005] now calls for the claim to include plasma activation for the textile rubber bond. Each reference to Morin et al. teaches that it is known in the art to utilize plasma means to activate bonding between textile and rubber material. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of either reference to Morin et al. and utilize such plasma type activation between the textile and rubber material, as taught by each reference, to enhance the respective bonding therebetween."

The shortcomings of the Li et al. reference are described above, specifically, that Li fails to teach the use of acryloxy organosilanes to treat a polyaramid that has been activated by an epoxy and/or a plasma. The Morin references describe the use of plasma pre-treatment in association with RFL application to enhance the bonding between the textile surface and rubber.

None of the references teaches the process of activating a polyaramid textile with at least one of an epoxy compound and a plasma, dipping the activated textile into a composition comprising acryloxy organosilane, and bonding the dipped textile to silicone rubber, as presented in Applicant's Claim 9.

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Because the reference does not disclose all of the limitations of Applicant's claims, Applicant submits that the rejection of Claims 9 – 15 is improper and respectfully requests that it be withdrawn.

Response to Examiner's Comments

The Examiner indicated that the Applicant submitted the requirements for the joint research agreement prior art exclusion under 35 USC 103(c) on February 2, 2005, thereby prompting the new grounds of rejection. Applicant can find no such invocation of 35 USC 103(c) in the record. Furthermore, it is not clear to Applicant that the Examiner has indicated that the rejections in the present application are based solely on obviousness-type double patenting, thereby necessitating the submission of one or more terminal disclaimers under 37 CFR 1.321(d). Should such disclaimers be necessary, Applicant would appreciate formal notice thereof, so that a suitable response may be prepared.

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CONCLUSION

In view of all of the previous remarks, it is respectfully requested that the Request for Continued Examination be accepted and the above amendments and remarks be entered. Applicant respectfully submits that this application is now in condition for allowance. Entry of this Amendment and issuance of a Formal Notice of Allowance is courteously solicited.

Should any issues remain after consideration of these Remarks, the Examiner is invited and encouraged to telephone the undersigned in the hope that any such issue may be resolved promptly and satisfactorily.

This response is accompanied by a Petition for Extension of Time (two months). In the event that there are additional fees associated with the submission of these papers (including extension of time fees), authorization is hereby provided to withdraw such fees from Deposit Account No. 04-0500.

Date: October 3, 2005

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Respectfully submitted,



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CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this correspondence is being sent via facsimile transmission to (571) 273 - 8300 to the Commissioner for Patents, Post Office Box 1450, Alexandria, VA 22313-1450 on the date shown below, along with a Petition for Extension of Time and a Request for Continued Examination Transmittal form (PTO/SB/30).

Signature: 

Name: Charlotte C. Wilson, Agent for Applicant

Date: October 3, 2005